PROJECT: _____ **ITEM NO.:** _____

grind2energy
An InSinkErator® solution

FOOD WASTE RECYCLING SYSTEM

Non-sewer-based Grind2Energy is more than an alternative to landfills and traditional compost programs. Our IoT-enabled solution recycles food waste by means of anaerobic digestion into clean water, fertilizer and renewable energy – in the form of electricity, heat or compressed natural gas.

PRODUCT FEATURES

- Processes food waste into an energy-rich slurry, highly suitable for anaerobic digestion
- Internet-of-Things (IoT) technology helps optimize operations by providing visibility into food waste recycling with real-time data
- Access monthly reports via an online dashboard, track the amount of waste processed and generate sustainability reports
- Provides real-time tank level to monitor tank capacity, and notifies the customer and hauler via email when it is time for a tank pump-out
- Dedicated Contact Center team can leverage integrated self-diagnostic capabilities to troubleshoot operational issues, should they arise
- Reduces odors and pests associated with food sitting out awaiting collection

PROCESSING TABLE SPECIFICATIONS

- 10 HP Grind2Energy exclusive modified grinder
- Powerful 5 HP peristaltic pump capable of pumping to tanks up to 100 feet away
- Throughput of approximately 2,000 pounds/hour
- Stainless steel table and chrome-plated finish components
- IoT-enabled controller with cellular data transmission

STORAGE TANK SPECIFICATIONS

- Available in four sizes from 3,000 to 6,000 gallons
- For tanks in an environment where freezing is a possibility, cold-weather protection is available
- High Density Polyethylene (HDPE) plastic discharge valve for vacuum truck pickup

SYSTEM SENSORS AND PROTECTIONS

Nine (9) sensors monitor the system.

- Redundant sensors measure the slurry level inside the tank and ensure that the tank never overflows
- Pump discharge pressure sensor protects against pressure failures
- Amperage sensors modulate optimal water flow and prevent overloads
- Temperature sensor monitors tank temperature and warns if there may be a risk of freezing

TABLE ELECTRICAL REQUIREMENTS

☐ 208-230V, 60 Hz, 3 Ph, 34.6 amps
☐ 460V, 60 Hz, 3 Ph, 17.3 amps

insinkerator
1250 International Drive Mount Pleasant, WI 53177
T: 800-845-8345 F: 262-554-3620
insinkerator.com
G2E169-19E-83-10

SYSTEM INCLUDES

- **Processing table:** IoT-enabled controller, 10-HP Grind2Energy exclusive modified grinder, 5-HP Pump, Water shut-off valve, Overhead sprayer
- **Collection tank and cover**
- **Removable splashguards (3)**
- **Squeegee**
- **Safety glasses**
- **Operating Kit:** (18) 10-Gallon collection bins and lids, (3) Rolling utility carts with labels
- **Tank Valves Kit:** Discharge valve, Tank coupling fitting, Pipe union, Vacuum breaker, Charcoal filter kit
- **Tank Sensors Kit:** Level sensor kit, Redundant level sensor, Float sensor kit, Capacitive sensor kit, Capacitive sensor shield, Temperature sensor
- **Piping and Wiring Kit:** Materials for table-to-tank connections
- **Cold-Weather Package:** Required for tanks in unheated, cold climate environments (included with Partially Insulated or Fully Insulated systems)

SUBSCRIPTIONS / SERVICES

- **IoT Essentials Package:** Access to Grind2Energy system usage information with sustainability reporting, customer support resources, and dashboard to predict "just-in-time" tank pump outs
- **CAD Consulting:** This service provides 2D and 3D drawings for system installation specific to your facility
- **Installation Project Management:** Our expert operations team can assist or completely manage your install

Benefits of Anaerobic Digestion

1 ton of food waste diverted from landfill and processed with anaerobic digestion[1]:

Reduces 0.69 tCO2e of carbon emissions which equates to the emissions of 1,659 miles driven by a passenger vehicle[2]

Generates 1,413 kBTU of heat which represents 182kWh of electricity[3]

Produces 114 lb of nutrient-rich fertilizer[4]

SITE REQUIREMENTS

1. GEOGRAPHY SUITABLE INFRASTRUCTURE:

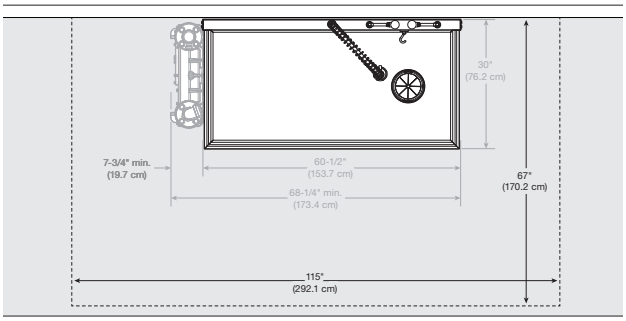
☐ Needed for the transport and recycling of food waste slurry (e.g., liquid hauler and recycling facility)
- For assistance with coverage information, please contact your InSinkErator Field Sales Representative or the dedicated Grind2Energy Contact Center at 1-888-321-3708

2. SIGNAL FOR IOT ACTIVATION:

☐ Strong, reliable cell signal for IoT connection
- External antenna available (contact factory for details)

3. PROCESSING TABLE:

☐ 3-Phase power and electric
☐ ½" Cold water supply
☐ Structurally sound mounting surface
☐ Clearance around processing table against wall so that the unit can be accessed during use and for periodic maintenance (see image below)



☐ Concrete floor with sufficient strength to properly anchor and with no cracks within 5" of the anchor bolts
☐ Must be in an environment without the risk of freezing or frost
☐ Washable wall covering recommended (e.g., fiberglass reinforced polymer (FRP))

4. STORAGE TANK:

☐ Power for cold-weather proofing option (1 or 3 - 120VAC circuits, depending on insulation package selected)
☐ Appropriately sized concrete pad, based on tank size selected
☐ Placement near the processing table – it is not recommended to exceed 100' (contact factory for more information)
☐ Placement so that the discharge is accessible to vacuum truck pickups and periodic maintenance

[1]Carbon emissions and heat generated from EPA Waste Reduction Model (WARM), assuming national average for landfill gas recovery, no curing of digestate after digestion and digestate land application. Typical food waste mix adopted: Beef 9%, Poultry 11%, Grains 13%, Fruits and Vegetables 49%, Dairy Products 18%

[2]Miles from EPA's Greenhouse Gases Equivalencies Calculator

[3]Heat to electricity conversion efficiency adopted of 44%

[4]Fertilizer based on 0.19gTS/gTSfw & 30%TS, Kim et al. 2016. Synergism of co-digestion of food wastes with municipal wastewater treatment biosolids. Waste Management.

STORAGE TANK SIZES

The amount of waste processed and the tank size will drive the expected annual number of tank pump-outs (see below). We recommend the customer choose the largest possible tank that will fit in the area desired to house the tank. By choosing the largest possible tank, the frequency of tank pump-outs can be minimized to achieve maximum operational efficiency.

IMPORTANT NOTE – *Actual number of tank pump-outs may vary with expedience of operator (session operation and cleaning can impact the amount of water used).*

FREQUENCY OF PUMP-OUTS PER YEAR

WASTE PROCESSED PER WEEK				
CAPACITY (GAL)	**0 – 2 TONS**	**2 – 4 TONS**	**4 – 6 TONS**	**6+ TONS**
3,000	≤ 18	19 – 39	Not recommended	Not recommended
4,200	≤ 12	13 – 25	26 – 40	≥ 41
5,000	≤ 10	11 – 21	22 – 33	≥ 34
6,000	≤ 8	9 – 16	17 – 26	≥ 27

STORAGE TANK INSTALLATION OPTIONS

The storage tank can be installed in any suitable location that provides accessibility to vacuum truck pump-outs and periodic maintenance. Tanks must be placed on a flat, level surface.

IMPORTANT NOTE – *Certain locations, such as California, have special seismic restraint requirements. Check your local seismic code requirements before installing.*

SURFACE

A leveled asphalt or concrete surface area of 10' x 10' (for 3,000 gallon tank) or 12' x 12' (for 4,200, 5,000 or 6,000 gallon tanks) is necessary for the storage tank base.

SYSTEM WITH EXTERIOR DISCHARGE

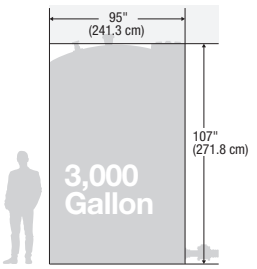
The storage tank can be installed inside, with the discharge piping routed through an exterior wall.

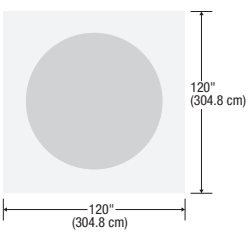
SYSTEM WITH EXTERIOR TANK

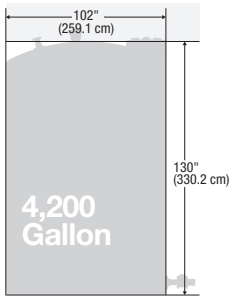
For tanks in an environment where freezing is a possibility, cold-weather protection is required.

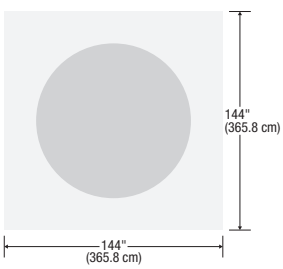
SAFETY BARRIERS

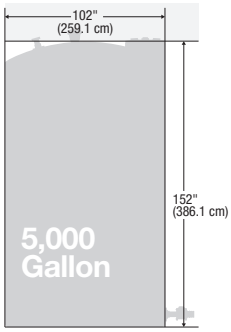
Posts and guard rails are recommended to protect the processing table and storage tank, indoors or outdoors. Posts must be anchored to a concrete surface.

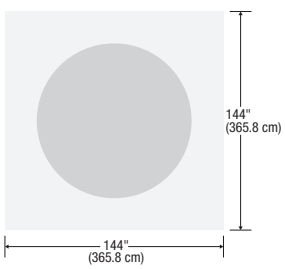


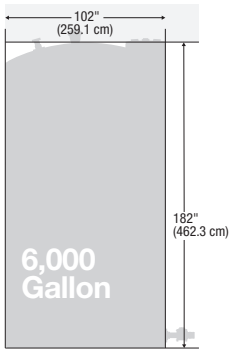


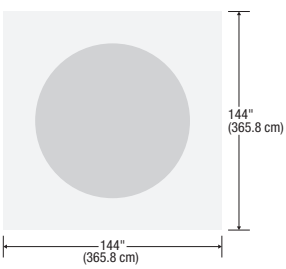




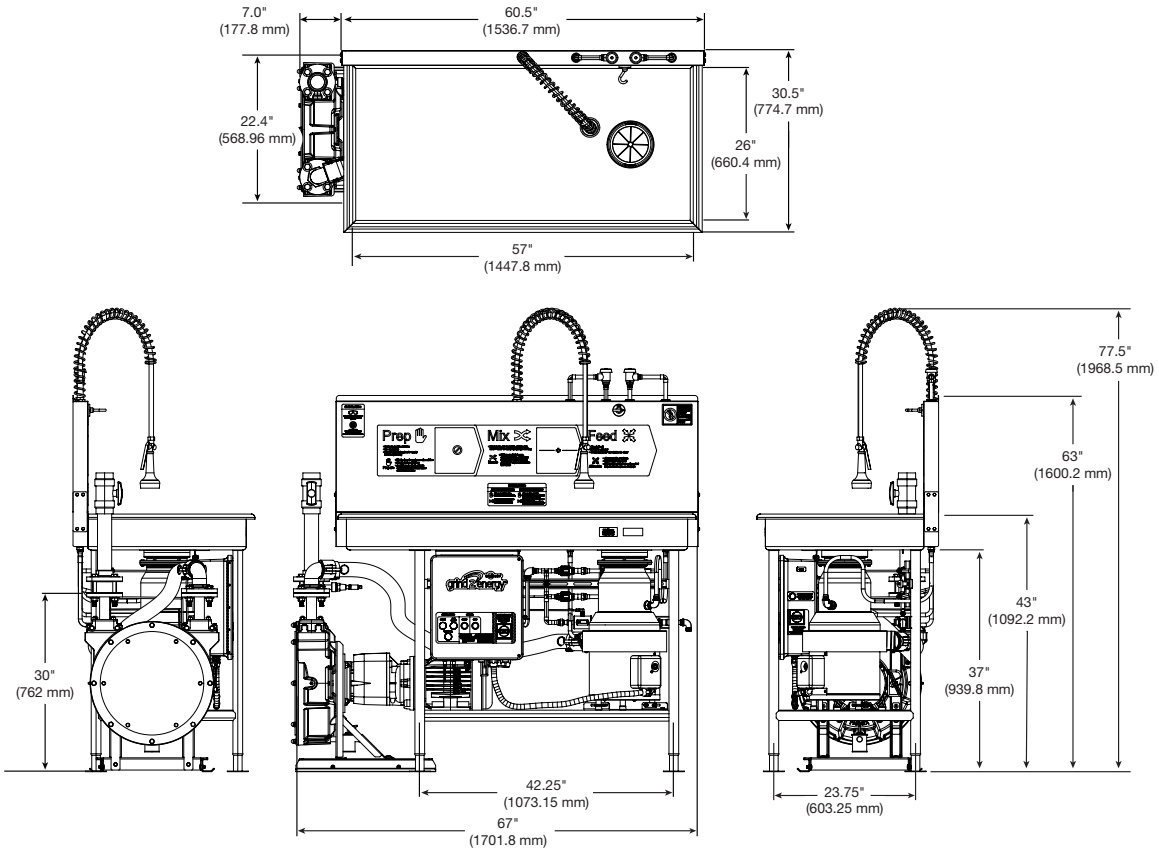








PROCESSING TABLE DIMENSIONS



SAMPLE SPECIFICATION

- Grind2Energy™ Food Waste Recycling System with processing table, 10-HP grinder, IoT controller, 5-HP peristaltic pump. _____ Volts, 60 Hz, 3 Phase operation, _____ Amps. _____ gallon collection tank. (18) 10 gallon (37.9 liter) collection bins and lids, (3) rolling utility carts with labels, (3) splashguards, squeegee and safety glasses. Includes piping and wiring material for table-to-tank connections.

PROJECT INFORMATION

Item Number: _____

Quantity: _____

Manufacturer: InSinkErator

Project: _____

Address: _____

City/State/Zip: _____

Contact: _____

Phone: _____

Installer: _____

Contact: _____

Phone: _____

Model Number: _____

Electrical Requirements: _____ volts _____ phase

Storage Tank Size: _____ gallons

Consultant: _____

Contact: _____

Phone: _____